Patented June 29, 1943 2,322,930

UNITED STATES PATENT OFFICE

2,322,930

FILLER COMPOSITION

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No Drawing. Application March 23, 1940, Serial No. 325,552

4 Claims. (Cl. 106—114)

This invention relates to wall constructions, especially those which utilize panels or wall boards carried upon a supporting structure. The invention particularly relates to fillers for the joints between such panels or wallboards.

In constructions of the type referred to, especially those in which the panels or wall boards are erected on studs or ceiling joists, one of the problems which arises is that of making the joints between the panels or wall boards inconspicuous. Particularly in walls which are not to receive a finish, except in some cases one or two coats of paint, it is desirable that the space of greater or less width which necessarily exists between the adjacent edges of two boards erected in the wall shall be filled with a suitable material which will not only fill and cover the joint but which will have qualities which will maintain the concealment of the joint, even when settlement, shrinkage and movement under load or various distorting forces occur.

Heretofore cements, some of which were made with glues such as casein or with other adhesives, have been used with or without reinforcing membrances or tapes laid over the joint between the two boards, the membrane or tape being covered by the cement which has been "feathered" out to merge with or be tangent to the surfaces of the adjacent boards or panels. Fillers containing calcined gypsum with hardening ingredients also have been used. In some cases, recesses or depressions have been provided along the meeting edges of the panels to provide space for the cement or the joint concealing material as well as for the tape and its covering coating of cement.

A fault which has been found with joint fillers and joint cements of the type which have been used heretofore is that under the strains produced by loads and other stress brought upon the wall due to settlement, expansion, contraction under heat and other forces cracks have developed in the joint material itself. Another fault experienced with ordinary joint fillers and cements is that they have required too much water to put them into the necessary plastic or flowable condition for applying with a putty knife or other such instrument, that they have had too great shrinkage upon drying so that cracks have developed in the surface of the applied filler or cement. Moreover, many of them have had the objection that they have dried out before the cement or other setting material contained therein had set and, therefore, a properly set hard body of the cement with a resultant hard surface which would not dust off was not obtained.

The invention proposes a combination of materials which it has been found can be combined without detriment one to the other while practicably securing all of the necessary properties to avoid the difficulties which have been referred to. The following formulae is indicative of the types of materials which are used:

	Pounds	Per cent
Amidex	2.5	2.5
Plastic clay	10.0	10
Fibrous talc	10.0	10
Calcined gypsum	77.5	77.5
Satin french ochre	.10	
Medium chrome yellow	.05	
Retarder	.03	
	100.18	100.0

The cement or filler of the above composition has a testing consistency of about 56 to 59 and will set in about 60 to 90 minutes. The amount of water suitable for mixing with the filler of the above composition to obtain a desirable working consistency for filling the joints may be about 5 lbs. of water to 10 lbs. of the filler. It has been possible with the compositions of the invention to obtain a filler in which the water-carrying capacity is relatively low and is within the ordinary range of testing consistency for calcined gypsums in common use, that is, from 40 to 75. Preferably, however, the range of testing consistency would be between 55 and 60 with a corresponding practical amount of water to be used to secure a working consistency of about 3 lbs. to 5 lbs. of water for each 10 lbs. of the filler.

Joints made with this filler show only limited portions which dry out before setting but these portions are sufficiently hard and even so that a satisfactory hard joint without dry-out cracks or tendency to dust is obtained. Moreover, the qualities of the cement are such that it works readily under the putty knife and is easy to mix and apply so that joints filled therewith may be rapidly finished. Because of the elasticity of the filler a permanent joint covering is secured which will not crack under the strains to which the wallboard structure is subjected.

The above formula is merely an example of the classes of materials which are suitable for the purposes of the invention. The name "Amidex" is a trade name given to a material which, similarly to starch gums and to natural gums, such as gum arabic, has the property of hardening and of inducing hardness in a mass of calcined gypsum when set from a plastic or pourable condition. Amidex is a complex carbohydrate derivative characterized as a hydrolized corn starch. It is believed to contain, among other ingredients, dextrine as well as dextrose and starch. It may be classified as a saccharide or, in a more limited sense, a starch derivative or a modified starch. Dextrine, also, is a starch derivative or a modified starch and the properties of these two materials are similar in that they both are capable